

THE OFFICE ACTION

In the Office Action issued May 8, 2003, the Examiner made the following rejections. Claims 1-19 were rejected under 35 U.S.C. §103(a) as being unpatentable over published U.S. patent application Publication No. US 2002/0025157 A1 to Kawakami ("Kawakami") in view of U.S. Patent No. 5,813,752 to Singer et al. ("Singer") and acknowledged prior art. Claims 1-19 and 21 were rejected under 35 U.S.C. §103(a) as being unpatentable over Japanese Document No. 2000-235245 ("JP235245") in view of Kawakami and Singer and acknowledged prior art.

REMARKS

Applicants have carefully reviewed the Office Action. Applicants respectfully request reconsideration of the application in light of the following comments. Claims 1-21 remain pending in the application.

I. Claims 1-19 Are Not Obvious Over Kawakami In View Of Singer

The Examiner rejected claims 1-19 under 35 U.S.C. §103(a) as being unpatentable over Kawakami in view of Singer and acknowledged prior art. The Examiner states that Kawakami discloses all of the elements of claim 1 except the milky white LED being one of a UV-phosphor or a blue-phosphor LED. The Examiner states that Singer discloses that white LEDs were known to be constructed of a UV or blue phosphor at the time of Applicants' invention. Thus, the Examiner believes that "it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to construct the milky white LED in the embodiment of Fig. 9 of Kawakami using conventional UV or blue phosphor LED technology in order to obtain the desirable result of building the white LED flash unit with a high brightness."

Applicants respectfully traverse this rejection for at least the following reasons. First, there is no motivation to combine the references because the

references relate to different fields of technology and seek to solve different problems. Kawakami relates to cameras having an electronic flash using LEDs as the flash light source. Singer, on the other hand, relates to the enhancement of the conversion and extraction of light from a UV/blue LED phosphor device by locating a short wave pass filter between the LED and the phosphor layer. The LED device in Singer differs significantly from the LED flash device of Kawakami. Singer relates to continuous light emitting devices for use in general illumination and/or display applications. Kawakami, on the other hand, relates to short, high intensity bursts of light for an electronic camera flash. One skilled in the art of cameras and electronic flashes would not be motivated to look to the teachings of Singer for use in camera flash applications. There is simply no indication or suggestion in Singer that the LED devices disclosed therein are suitable for use as camera flash components.

Second, there is no motivation to combine the teachings of the two references because the use of UV or blue-phosphor LED technology does not necessarily connote higher brightness. In the previous Office Action, the Examiner states that it would have been obvious to construct the milky white LED of Kawakami using conventional UV or blue phosphor LED technology in order to obtain a white LED flash unit with a high brightness (Office Action, page 2). Applicants respectfully disagree since not all UV or blue phosphor LED systems result in a high brightness LED device. That is, whether a device is high brightness does not solely depend on whether the LED device is UV or blue phosphor LED. In fact, many UV phosphor and blue phosphor LED devices are not high brightness. This is acknowledged in Singer which notes that many UV phosphor and blue phosphor LEDs suffer from inefficient conversion and re-absorption resulting in reduced visible light output (col. 1, lines 32-45). Specifically, Singer states that ". . . in such devices, the phosphors only partially absorb the light from the LED. The unabsorbed light is partially reflected by the phosphor particles . . . and partially transmitted through the phosphor layer, in both cases reducing the visible light output." Thus, despite the Examiner's assertion, one of

ordinary skill in the art would not be motivated to construct the milky white LED of Kawakami using UV or blue phosphor LED technology since many such devices cannot produce the high brightness necessary for an autronic camera flash.

For at least these reasons, Applicants submit that claims 1-19 are not rendered obvious over Kawakami in view of Singer and prior art.

II. Claims 1-19 And 21 Are Not Obvious Over JP235245 In View Of Kawakami And Singer And Acknowledged Prior Art

The Examiner rejected claims 1-19 and 21 under 35 U.S.C. §103(a) as being unpatentable over JP235245 in view of Kawakami and Singer and acknowledged prior art. Applicants respectfully traverse.

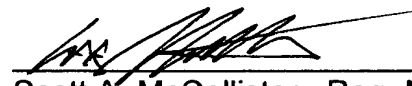
Applicants submit that the noted references fail to render the present claims unpatentable for the same reasons stated above with regard to claims 1-19. That is, there is no motivation to substitute a UV phosphor or blue phosphor for the milky white LED disclosed in Kawakami. UV phosphor and blue phosphor LEDs do not inherently have high brightness and therefore the Examiner's arguments that it would have been obvious to construct a milky white LED using UV or blue phosphor LED technology in order to obtain high brightness is incorrect.

CONCLUSION

In view of the foregoing comments, Applicants submit that claims 1-21 are in condition for allowance. Applicants respectfully request early notification of such allowance. Should any issues remain unresolved, the Examiner is encouraged to contact the undersigned to attempt to resolve any such issues.

If any fee is due in conjunction with the filing of this response, Applicants
authorize deduction of that fee from Deposit Account 06-0308.

Respectfully submitted,
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